REMARKS/ARGUMENTS

Applicants thank the Examiner for the outstanding Office Action and indication of allowed claims and allowable subject matter. However, several art-based rejections remain under 35 U.S.C. §§102(b) and 103(a) with which Applicant respectfully disagrees. Applicants have therefore taken this opportunity to present arguments that are believed to overcome the base rejection of Claims 1 and 18 from which all other rejections flow.

Defective Oath/Declaration

Applicants note the Examiner's statement that the declaration is defection as lacking inventor signatures. The undersigned believes that such signatures were provided by Applicants' prior patent counsel in the paper submitted on 10 APR 2004 as "Response to Notice to File Missing Parts of Nonprovisional Application." However, as the undersigned is currently in the process of obtaining clarification of such paper and/or such missing signatures, the Examiner is requested to hold provision of such signatures in abeyance until such time as the art-based rejections have been removed.

Art-based Rejection

The Examiner has rejected Claims 1, 2, 18, and 21 under 35 U.S.C. §102(b) as being anticipated by Hwang (USP 6,633,553). More specifically, the Examiner stated:

> Regarding claims 1 and 18, Hwang teaches a system for closed loop power control in a wireless communicating network, comprising: a communication unit having: a receiver (col. 5, lines 48-50), the receiver receiving a first signal (Fig. 3, element 300); a central processing unit (see Fig. 3; the CPU is represented by all elements in Fig.3, excluding element 300), the central processing unit in operative communication with the receiver and executing functions (Fig. 3; col. 5, lines 45-47 including: despreading a received signal (col. 5, lines 48-50); estimating the signal power of the despread received signal (col. 5, line 54-62); estimating the noise power of the despread received signal (col. 5, lines 63-66), estimating the noise power including: multiplying the despread received signal with an orthogonal noise code to cancel the received signal (col. 5,

lines 63-67; col. 6, lines 1-3); and accumulating the multiplied despread received signal over one frame (col. 6, lines 4-7); determining a signal-to-noise ratio of the received signal at least in part by dividing the estimated signal power by the estimated noise power (col. 6, lines 9-12); and determining the estimated signal power control bit based on the determined signal-to-noise ratio (col. 6, lines 23-24).

Applicants respectfully disagree. Contrary to the Examiner's statements, several distinguishing aspects of the instant invention as stated in pending Claims 1 and 18 are believed to exist. Moreover, the present invention requires that "in order to determine the SNR of the received signal, an estimate of the received noise level and an estimate of the received signal level, typically the pilot signal, must be determined." (see page 17, lines 5-9 of Applicants' original disclosure) Hence, an <u>estimated</u> signal-to-noise ratio is utilized. Such estimated signal-to-noise ratio is also found within independent Claims 1 and 18. In sharp contrast, the Hwang reference utilizes a "measured SIR." (see col. 4, line 54). The abbreviation "SNR" is used the present invention while "SIR" is used in the Hwang reference. Applicants' independent Claim 1 and 18 each clearly include an SNR derived from an estimating function rather than a measured SNR as shown by the Hwang reference. Specifically, what is claimed is:

> "A method for closed loop power control in a wireless communication network, comprising: despreading a received signal; **estimating** the signal power of the despread received signal; **estimating** the noise power of the despread received signal, **estimating** the noise power including: multiplying the despread received signal with an orthogonal noise code to cancel the received signal; and accumulating the multiplied despread received signal over one frame; determining a signal-to-noise ratio of the received signal at least in part by dividing the **estimated** signal power by the **estimated** noise power; and determining a reverse power control bit based on the determined signal-to-noise ratio." (bolding added for emphasis)

and

> "A system for closed loop power control in a wireless communication network, comprising: a communication unit having: a receiver, the receiver receiving a first signal; a central processing unit, the central processing unit in operative communication with the receiver and executing functions including: despreading the received first signal; **estimating** the signal power of the despread received first signal; **estimating** the noise power of the despread received first signal,

> **estimating** the noise power including: multiplying the despread received signal with an orthogonal noise code to cancel the received first signal; and accumulating the multiplied despread received first signal over one frame; determining a signal-to-noise ratio of the received first signal at least in part by dividing the **estimated** signal power by the **estimated** noise power; and determining a reverse power control bit based on the determined signal-to-noise ratio. (bolding added for emphasis)

Accordingly, the presently claimed invention determines a reverse power control bit based on the determined SNR where such SNR is determined by dividing the estimated signal power by the estimated noise power. Given that the signal power and noise power that form the SNR are each estimated, it is clear that the SNR is itself a complete estimate. This is supported by the Specification already discussed above with regard to page 17, lines 5-9 of Applicants' original disclosure. In contrast, the device of Hwang calculates SIR (i.e., SNR) for each path by taking the estimated reception strengths from channel estimators and dividing such estimations by measured interference strengths that are measured by interference measurers. (see col. 5. lines 54 and 62 and col. 6, lines 9-11). Therefore, the SIR of the Hwang reference does not solely rely upon estimations.

The Hwang reference includes interference measurers that provide a measurement of the noise of the despread signals. (col. 5, line 64) While a measurement for each path is averaged for a resulting SIR (col. 6, line 13), this SIR is still based upon measurements rather than estimations as discussed above in regard to independent Claims 1 and 18. Accordingly, the Hwang reference does not appear to show or fairly suggest using an estimated signal-to-noise ratio.

Further, the Examiner contends that Hwang shows "estimating the noise power including: multiplying the despread received signal with an orthogonal noise code to cancel the received signal (col. 5, lines 63-67; col. 6, lines 1-3)." Applicants respectfully point out that the cited passages contain reference to multipliers that function for phase compensation. However, such phase compensation suggested by the Hwang reference

is not shown or suggested as undertaken to cancel the received signal, as clearly recited in Claims 1 and 18 of the subject application.

Still further, the Examiner contends that Hwang shows "determining the estimated signal power control bit based on the determined signal-to-noise ratio (col. 6, lines 23-24)." However, the cited passage at column 6 in lines 23-24 does not appear relevant at all to the referenced limitation "determining a reverse power control bit based on the determined signal-to-noise ratio" which is required by independent Claims 1 and 18. The Applicants request clarification of this assertion by the Examiner as the Hwang reference is not believed to show or fairly suggest this claimed aspect.

The Examiner has made two further rejections under 35 U.S.C. § 103(a) based upon Hwang in separate combinations with Shen (USP 6,717,976) and Ahn et al. (USP 6,539,008). Applicants respectfully disagree and add that each such combination fails to correct the above-stated deficiencies in the Hwang reference. Neither Shen nor Ahn et al. teach each method step as claimed in Claim 1 or executing functions as claimed in Claim 18. Hwang relies upon interference measurers to measure path interference strength. Nothing in either Shen nor Ahn et al. suggests otherwise. Indeed, Shen includes a measured FER that is responsible for setting and updating the SNR threshold necessary to the generation of the power control bit (see Shen, col. 5, lines 36-39), and, as well, Ahn et al. only appears to includes discussion of measured signal strength (see Ahn et al., col. 2, line 22). Applicants' instant invention as claimed relies upon estimated signal power and estimated noise power in order to produce an SNR that is itself an estimated value from which the reverse power control bit is derived. None of the cited art relies upon estimation to this extent. Accordingly, such arguments made above equally apply to the rejections under 35 U.S.C. § 103(a) such that Hwang either alone or taken in combination with Shen or Ahn et al. fails to show or fairly suggest the pending claims. Thus, Applicants respectfully submit that Claim 1, and Claims 2-15 which depend therefrom are allowable as are Claim 18, and Claims 19-34 which depend therefrom.

Conclusion

No new matter is believed to have been entered and no new issues are believed to have been presented by way of this response. It is submitted that this application is now in condition for allowance, and action to that end is respectfully requested.

Respectfully submitted,

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